

SN. 10/647,094

ATTORNEY DOCKET No. FUJI:270

13. (Original) A perpendicular magnetic recording medium according to claim 12, wherein the backing layer is composed of a CoZrNb alloy or a CoZrTa alloy having a thickness ranging from 50 to 400 nm.

Currently Amended
14. (Withdrawn-*Currently Amended*) A method of manufacturing a perpendicular magnetic recording medium comprising the steps of:

providing a nonmagnetic substrate; and
depositing an underlayer on the substrate; and
~~depositing, directly on the nonmagnetic substrate underlayer, a magnetic layer having a multilayered lamination structure by alternately laminating cobalt layers mainly containing cobalt and noble metal layers of platinum or palladium, using a target containing at least one element selected from the group consisting of Ru, Ta, Nb, Mo, Mn, Cr, Si, and Ni, and at least one oxide, wherein the content of the oxide ranges from 1 to 15 at%, and wherein the cobalt layers contain silicon oxide ranging from 5 to 11 mol%, and the noble metal layers are composed of platinum and contains silicon oxide ranging from 1 to 8 mol%.~~
wherein at least one of the cobalt layers and the noble metal layers contains at least one element selected from the group consisting of Ru, Ta, Nb, Mo, Mn, Cr, Si, and Ni, or at least one oxide, and
wherein the underlayer consists of ruthenium.

15. (Cancelled)

Original
16. (Withdrawn) A method for manufacturing a perpendicular magnetic recording medium according to claim 14, wherein the magnetic layer is deposited with a sputtering gas containing oxygen ranging from 0.05 to 0.5 % in a relative mass flow rate.

17. (Cancelled)

Currently Amended
18. (Withdrawn-*Currently Amended*) A method for manufacturing a perpendicular magnetic recording medium according to claim [[17]] 14, wherein the underlayer and the magnetic layer are deposited using a sputtering gas selected from krypton, xenon, a mixture of krypton and argon, and a mixture of xenon and argon.

SN. 10/647,094

ATTORNEY DOCKET NO. FUJI:270

Currently Amended

19. (~~Withdrawn~~ *Currently Amended*) A method for manufacturing a perpendicular magnetic recording medium according to claim [[17]] 14, further comprising the step of adsorbing oxygen on the underlayer surface after depositing the underlayer and before depositing the magnetic layer, the adsorption step including exposing the surface of the underlayer to argon gas containing 1 to 10 % of oxygen in relative mass flow rate under a pressure ranging from 0.1 to 10 Pa for 1 to 20 seconds.

20. (*Currently Amended*) A perpendicular magnetic recording medium comprising:

a nonmagnetic substrate;
a magnetic layer having a multilayered lamination structure of alternately laminated cobalt layers containing mainly cobalt and noble metal layers of platinum or palladium; and
an underlayer between the magnetic layer and the substrate, the magnetic layer being formed directly on the underlayer,

wherein at least one of the cobalt layers and the noble metal layers contains at least one element selected from the group consisting of Ru, Ta, Nb, Mo, Mn, Cr, Si, and Ni, or at least one oxide,

wherein the underlayer is composed consists of [[a]] ruthenium film.